

# **EXHIBIT 11**

**Exhibit 11: U.S. Patent No. 7,313,575**

Claim 1	Identification		
<p><b>1[pre].</b> A data services handler for execution on a computing system comprising:</p>	<p>To the extent the preamble is limiting, SAP Data Services includes a data services handler for execution on a computing system. For example, <i>see</i>:</p> <div data-bbox="611 402 1467 630" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p style="text-align: center;"><b>What is SAP Data Services?</b></p> <p>SAP Data Services software improves the quality of data across the enterprise. As part of the information management layer of SAP's Business Technology Platform, it delivers trusted, relevant, and timely information to drive better business outcomes.</p> </div> <p>Source: <a href="https://www.sap.com/india/products/technology-platform/data-services.html">https://www.sap.com/india/products/technology-platform/data-services.html</a>.</p> <div data-bbox="611 703 1110 943" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p><b>Enterprise Data Management Software</b></p> <p>Transform your data into a trusted, ever-ready resource for business insight and use it to streamline processes and maximise efficiency.</p> </div> <p>Source: <a href="https://www.sap.com/india/products/technology-platform/data-services.html">https://www.sap.com/india/products/technology-platform/data-services.html</a>.</p> <div data-bbox="611 1019 1745 1338" style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top; padding-right: 10px;"> <p>SAP* Data Services software helps you access, transform, and connect your data, letting you deliver relevant and timely information to critical business functions. This information management software provides some of the best functionality for data integration, quality, cleansing, and more. Transform your data into a trusted, ever-ready resource for business insight – and use it to streamline processes and maximize efficiency.</p> </td><td style="width: 50%; vertical-align: top;"> <p>The software provides an information management foundation that is intelligent, metadata-driven, and open. It offers extensible support of virtually any data volume or variety to support a wide variety of data formats – structured, text, Big Data, social, and spatial data. With it, you can support both operational and analytical data-driven initiatives and access practically any data regardless of type, domain, or source.</p> </td></tr> </table> </div> <p>Source: SAP Solution Brief, Data Management Solutions from SAP   SAP Data Services (available at <a href="https://www.sap.com/india/documents/2015/12/b4cf1d28-507c-0010-82c7-eda71af511fa.html">https://www.sap.com/india/documents/2015/12/b4cf1d28-507c-0010-82c7-eda71af511fa.html</a>).</p>	<p>SAP* Data Services software helps you access, transform, and connect your data, letting you deliver relevant and timely information to critical business functions. This information management software provides some of the best functionality for data integration, quality, cleansing, and more. Transform your data into a trusted, ever-ready resource for business insight – and use it to streamline processes and maximize efficiency.</p>	<p>The software provides an information management foundation that is intelligent, metadata-driven, and open. It offers extensible support of virtually any data volume or variety to support a wide variety of data formats – structured, text, Big Data, social, and spatial data. With it, you can support both operational and analytical data-driven initiatives and access practically any data regardless of type, domain, or source.</p>
<p>SAP* Data Services software helps you access, transform, and connect your data, letting you deliver relevant and timely information to critical business functions. This information management software provides some of the best functionality for data integration, quality, cleansing, and more. Transform your data into a trusted, ever-ready resource for business insight – and use it to streamline processes and maximize efficiency.</p>	<p>The software provides an information management foundation that is intelligent, metadata-driven, and open. It offers extensible support of virtually any data volume or variety to support a wide variety of data formats – structured, text, Big Data, social, and spatial data. With it, you can support both operational and analytical data-driven initiatives and access practically any data regardless of type, domain, or source.</p>		

Claim 1	Identification		
	<div data-bbox="611 267 1843 383"> <p>SAP Data Services supports the entire SAP BusinessObjects BI platform. On top of Data Services, the SAP BusinessObjects BI Suite layers the most reliable, scalable, flexible, and manageable platform. The platform supports integrated end-user interfaces for the following features:</p> </div> <div data-bbox="611 427 1843 688"> <p>SAP has created a data integration product that uses relational datastores and built-in intelligence for real time and batch data access. Data is from ERP systems and other sources. With these capabilities, leverage your ERP and enterprise application infrastructure for multiple uses.</p> <p>With batch and real-time data integration, you can take advantage of analytic and supply-chain management applications. With data integration solutions, you can maintain a real-time, on-line dialogue with customers, suppliers, employees, and partners. Your company can provide customers, suppliers, employees, and partners with information for transactions and business analysis.</p> </div> <div data-bbox="611 732 1843 816"> <p>SAP Data Services accesses data using connection information that you provide, such as in datastores. It also uploads generated data using the same or different connection information.</p> </div> <p>Source: SAP Data Service, Technical Manuals at 30, 557 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p>		
<p><b>1[a].</b> an interface executing on the computing system for communicating between a data store and applications that supply and consume data; and</p>	<p>SAP Data Services includes an interface executing on the computing system for communicating between a data store and applications that supply and consume data. For example, <i>see</i>:</p> <div data-bbox="611 1040 1818 1208"> <table> <tr> <td><b>interface</b></td><td>A type of interaction with Data Services which is either internal (allows you to create datastore connections to natively- supported applications), or external (allows Data Services to to communicate with information exchange technologies such as Web Services and MQ queries).</td></tr> </table> </div> <p>Source: SAP Data Service, Technical Manuals at 2965 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p>	<b>interface</b>	A type of interaction with Data Services which is either internal (allows you to create datastore connections to natively- supported applications), or external (allows Data Services to to communicate with information exchange technologies such as Web Services and MQ queries).
<b>interface</b>	A type of interaction with Data Services which is either internal (allows you to create datastore connections to natively- supported applications), or external (allows Data Services to to communicate with information exchange technologies such as Web Services and MQ queries).		

Claim 1

Identification

16.1.2 SAP interfaces

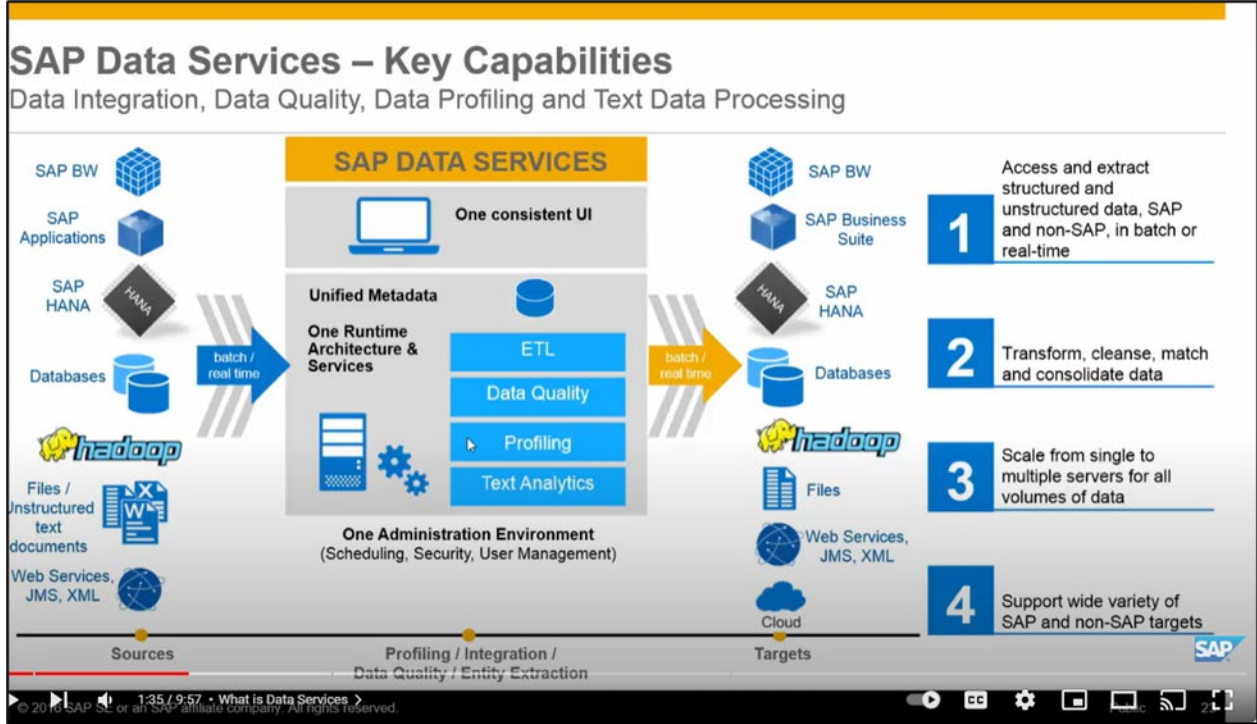
SAP Data Services works with various SAP interfaces to obtain data for processing.

The following table lists SAP interfaces, how to access data from the interface in Data Services, and the types of data flows you can use with data from the interface.

Interface	Access data	Data/ flow/ type
Operational Data Provider (ODP)	Data Services application datastore.	Regular/ batch ABAP/ batch
ABAP	Data Services application datastore.  Import metadata for tables, files, hierar- chies, and functions.	ABAP/ batch
BAPI	Data Services application datastore.  Import BAPI function metadata to up- date SAP interfaces and SAP Business Warehouse (BW) sources.	Regular/ batch Real/ time

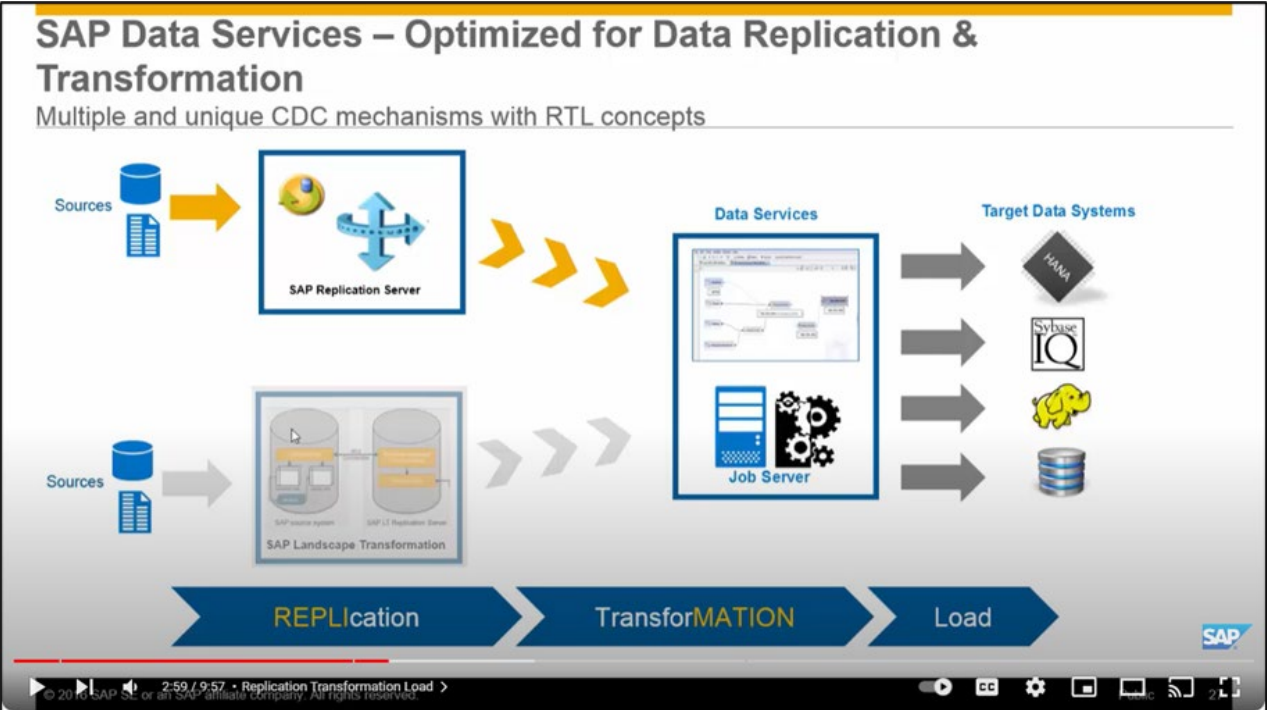
**i Note**  
ABAP sources are an alternative to ODP sources.

Claim 1	Identification																	
	<table><tr><td>IDoc</td><td>Data Services application datastore.  Import IDoc metadata to create the following objects:  For batch jobs:<ul style="list-style-type: none"><li>IDoc file source</li><li>IDoc message source</li><li>IDoc message target</li></ul> For real-time jobs:<ul style="list-style-type: none"><li>IDoc file source</li><li>IDoc message source</li><li>IDoc file target</li><li>IDoc message target</li></ul></td><td>Regular/ batch Real/ time</td></tr><tr><td>SAP Business Warehouse (BW)</td><td>Data Services datastore as:<ul style="list-style-type: none"><li>SAP BW target</li><li>SAP BW source</li></ul> Run data flow from SAP BW or Data Services to update SAP BW targets.</td><td>Regular/ batch</td></tr><tr><td>SAP BW Open Hub Destination service</td><td>Data Services datastore as SAP BW source.</td><td>Regular/ batch</td></tr></table> <table><tr><th>Interface</th><th>Access data</th><th>Data/ flow/ type</th></tr><tr><td>SAP BW/4HANA</td><td>ABAP data flows, and Data Services datastores.  For SAP BW target datastores, import Advanced dataStore objects (ADSOs).</td><td>Regular/ batch</td></tr></table>			IDoc	Data Services application datastore.  Import IDoc metadata to create the following objects:  For batch jobs: <ul style="list-style-type: none"><li>IDoc file source</li><li>IDoc message source</li><li>IDoc message target</li></ul> For real-time jobs: <ul style="list-style-type: none"><li>IDoc file source</li><li>IDoc message source</li><li>IDoc file target</li><li>IDoc message target</li></ul>	Regular/ batch Real/ time	SAP Business Warehouse (BW)	Data Services datastore as: <ul style="list-style-type: none"><li>SAP BW target</li><li>SAP BW source</li></ul> Run data flow from SAP BW or Data Services to update SAP BW targets.	Regular/ batch	SAP BW Open Hub Destination service	Data Services datastore as SAP BW source.	Regular/ batch	Interface	Access data	Data/ flow/ type	SAP BW/4HANA	ABAP data flows, and Data Services datastores.  For SAP BW target datastores, import Advanced dataStore objects (ADSOs).	Regular/ batch
IDoc	Data Services application datastore.  Import IDoc metadata to create the following objects:  For batch jobs: <ul style="list-style-type: none"><li>IDoc file source</li><li>IDoc message source</li><li>IDoc message target</li></ul> For real-time jobs: <ul style="list-style-type: none"><li>IDoc file source</li><li>IDoc message source</li><li>IDoc file target</li><li>IDoc message target</li></ul>	Regular/ batch Real/ time																
SAP Business Warehouse (BW)	Data Services datastore as: <ul style="list-style-type: none"><li>SAP BW target</li><li>SAP BW source</li></ul> Run data flow from SAP BW or Data Services to update SAP BW targets.	Regular/ batch																
SAP BW Open Hub Destination service	Data Services datastore as SAP BW source.	Regular/ batch																
Interface	Access data	Data/ flow/ type																
SAP BW/4HANA	ABAP data flows, and Data Services datastores.  For SAP BW target datastores, import Advanced dataStore objects (ADSOs).	Regular/ batch																
Source: SAP Data Service, Technical Manuals at 4046-47 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a> ).																		

Claim 1	Identification
<p><b>1[b].</b> a real time information director (RTID) executing on the computing system that transforms data for supply, consumption, or both by the applications under direction of polymorphic metadata that defines a security model and data integrity rules for application to the data, the RTID to dynamically instantiate, create, and cache for reuse disassemblers and assemblers according to demand, the RTID further comprising:</p>	<p>SAP Data Services includes a real time information director (RTID) executing on the computing system that transforms data for supply, consumption, or both by the applications under direction of polymorphic metadata that defines a security model and data integrity rules for application to the data, the RTID to dynamically instantiate, create, and cache for reuse disassemblers and assemblers according to demand. For example, <i>see</i>:</p>  <p>The diagram, titled "SAP Data Services – Key Capabilities", illustrates the architecture and capabilities of SAP Data Services. It shows a central "SAP DATA SERVICES" block with four main components: "One consistent UI", "Unified Metadata", "One Runtime Architecture &amp; Services" (containing ETL, Data Quality, Profiling, and Text Analytics), and "One Administration Environment (Scheduling, Security, User Management)". Data flows from "Sources" on the left to "Targets" on the right, with arrows labeled "batch / real time". Sources include SAP BW, SAP Applications, SAP HANA, Databases, Hadoop, Files / Unstructured text documents, and Web Services, JMS, XML. Targets include SAP BW, SAP Business Suite, SAP HANA, Databases, Hadoop, Files, Web Services, JMS, XML, and Cloud. Four numbered capabilities are listed on the right: 1. Access and extract structured and unstructured data, SAP and non-SAP, in batch or real-time; 2. Transform, cleanse, match and consolidate data; 3. Scale from single to multiple servers for all volumes of data; 4. Support wide variety of SAP and non-SAP targets. A video player interface at the bottom shows the video is at 1:35 / 9:57.</p> <p>Source: <a href="https://www.youtube.com/watch?v=RIsrknokNCg">https://www.youtube.com/watch?v=RIsrknokNCg</a>.</p>



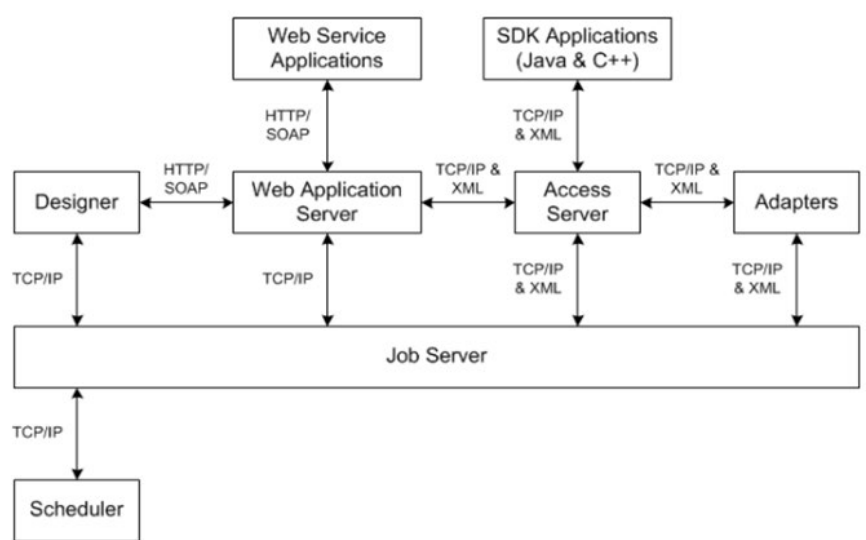
Claim 1	Identification
	<div data-bbox="611 266 1829 574"> <p><b>1.2.2.3 Job Server</b></p> <p>The SAP Data Services Job Server starts the data movement engine that integrates data from multiple heterogeneous sources.</p> <p>The Job Server performs complex data transformations, and manages extractions and transactions from ERP systems and other sources in batch and real-time modes. The Job Server delivers high data throughput and scalability through the following techniques:</p> </div> <div data-bbox="611 574 1829 1149"> <ul style="list-style-type: none"> <li>• Distributed query optimization</li> <li>• Multi threaded processes</li> <li>• In memory caching</li> <li>• In memory data transformations</li> <li>• Parallel processes</li> </ul> <p>When you initiate a job in Designer, the Job Server runs the job as follows:</p> <ul style="list-style-type: none"> <li>• Retrieves the job information from the repository.</li> <li>• Starts the applicable engine to process the job.</li> </ul> <p>In your production environment, the Job Server runs jobs triggered by a scheduler or by a real-time service managed by the Access Server.</p> <p>In production environments, balance job loads by creating a Job Server group. Job Server groups consist of multiple Job Servers that run jobs according to overall system load.</p> </div> <div data-bbox="611 1149 1829 1230"> <p>Source: Source: SAP Data Service, Technical Manuals at 33-34 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p> </div>

Claim 1	Identification
	 <p><b>SAP Data Services – Optimized for Data Replication &amp; Transformation</b> Multiple and unique CDC mechanisms with RTL concepts</p> <p>The diagram illustrates two data replication paths:</p> <ul style="list-style-type: none"> <li><b>Top Path:</b> Sources (represented by a cylinder and document icon) feed into the <b>SAP Replication Server</b> (a box with a globe and arrows). This server then feeds into <b>Data Services</b> (a box with a screenshot of a tool) and a <b>Job Server</b> (a box with gears). Both Data Services and Job Server feed into <b>Target Data Systems</b>, which include HANA, Sybase IQ, and other databases.</li> <li><b>Bottom Path:</b> Sources feed into <b>SAP Landscape Transformation</b> (a box showing two database systems connected by arrows). This also feeds into the same <b>Data Services</b> and <b>Job Server</b>, which then load data into the <b>Target Data Systems</b>.</li> </ul> <p>A process bar at the bottom shows the sequence: <b>REPLICATION</b> → <b>TransforMATION</b> → <b>Load</b>.</p> <p>Source: <a href="https://www.youtube.com/watch?v=RIsrknokNCg">https://www.youtube.com/watch?v=RIsrknokNCg</a>.</p>



Claim 1	Identification
	<div data-bbox="646 298 947 342"> <h2>2.13 Data flows</h2> </div> <div data-bbox="646 391 1570 423"> <p>Data flows are the objects that extract, transform, and load data in a batch or real-time job.</p> </div> <div data-bbox="646 440 1745 537"> <p>Everything having to do with data, including reading sources, transforming data, and loading targets, occurs inside a data flow. The lines connecting objects in a data flow represent the flow of data through data transformation steps.</p> </div> <div data-bbox="667 561 814 597"> <p>❖ Example</p> </div> <div data-bbox="667 618 1759 678"> <p>To populate the fact table in your data warehouse with new data from two tables in your source transaction database, create a data flow that contains the following objects:</p> </div> <div data-bbox="678 699 1325 805"> <ul style="list-style-type: none"> <li>• Two source tables.</li> <li>• A Query transform that joins specified rows from the tables.</li> <li>• A target table where the new rows are placed.</li> </ul> </div> <div data-bbox="667 821 1759 881"> <p>Connect the objects in the data flow to indicate the flow of data. The following diagram shows the resulting data flow:</p> </div> <div data-bbox="667 911 1297 1271"> <pre> graph LR     Source1[Source1] --&gt; Query[Query]     Source2[Source2] --&gt; Query     Query --&gt; Target[Target]   </pre> </div>

Claim 1	Identification				
	<div data-bbox="611 266 1877 873" style="border: 1px solid black; padding: 10px;"> <h2 data-bbox="640 293 974 331">2.15 Transforms</h2> <p data-bbox="640 391 1822 451">Transforms change and manipulate input data sets for a specific purpose, and pass the changed data to other transforming objects in a data flow.</p> <p data-bbox="640 477 1835 605">SAP Data Services includes many types of built-in transforms in the <i>Transforms</i> tab of the object library. The built-in transforms installed with Data Services are based on the package that your administrator has purchased. Therefore, there are some documented transforms that you don't have available in your installation of Data Services.</p> <p data-bbox="640 631 1770 659">The transforms listed in the object library fall under one of the categories described in the following table.</p> <table data-bbox="640 699 1835 850"> <thead> <tr> <th data-bbox="646 704 743 727">Category</th><th data-bbox="1247 704 1367 727">Description</th></tr> </thead> <tbody> <tr> <td data-bbox="646 753 800 776">Data Integrator</td><td data-bbox="1247 753 1829 841">Ensures data integrity and maximizes developer productivity for extracting, transforming, and loading data in a warehouse environment.</td></tr> </tbody> </table> </div> <p data-bbox="611 878 1871 987">Source: <a href="https://www.youtube.com/watch?v=RIsrknokNCg">https://www.youtube.com/watch?v=RIsrknokNCg</a>; SAP Data Service, Technical Manuals at 547, 600(available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p>	Category	Description	Data Integrator	Ensures data integrity and maximizes developer productivity for extracting, transforming, and loading data in a warehouse environment.
Category	Description				
Data Integrator	Ensures data integrity and maximizes developer productivity for extracting, transforming, and loading data in a warehouse environment.				

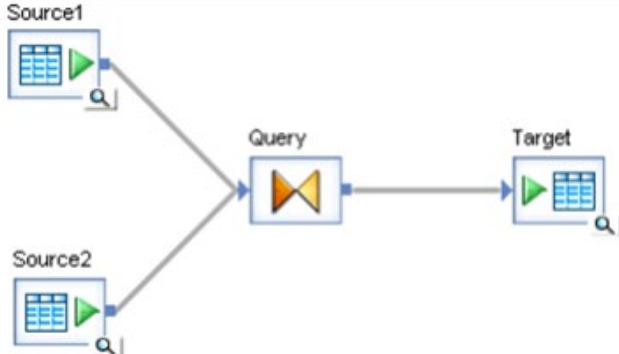
Claim 1	Identification
	<p><b>1.3.6 SSL or TLS for Data Services components</b></p> <p>Secure Sockets Layer (SSL), and its newer version, Transport Layer Security (TLS), are cryptographic protocols that provide security and data integrity for network communications.</p> <p>Transport Layer Security (TLS) is the standard specification published by the IETF that is based on earlier SSL specifications. Use TLS for Windows version 10 and higher.</p> <p><b>1.3.6.1 Protected communication paths</b></p> <p>Within the SAP Data Services platform, SSL/TLS is supported for all communication paths between components that communicate over a network.</p> <p>The following diagram illustrates the communication channels within the Data Services architecture that support SSL/TLS.</p>  <pre> graph TD     WS[Web Service Applications] &lt;--&gt; HTTP/SOAP  WAS[Web Application Server]     SDK[SDK Applications Java &amp; C++] &lt;--&gt; TCP/IP &amp; XML  AS[Access Server]     D[Designer] &lt;--&gt; HTTP/SOAP  WAS     WAS &lt;--&gt; TCP/IP &amp; XML  AS     AS &lt;--&gt; TCP/IP &amp; XML  A[Adapters]     J[Job Server] &lt;--&gt; TCP/IP  D     J &lt;--&gt; TCP/IP  WAS     J &lt;--&gt; TCP/IP &amp; XML  AS     J &lt;--&gt; TCP/IP &amp; XML  A     S[Scheduler] &lt;--&gt; TCP/IP  J   </pre> <p>Source: SAP Data Service, Technical Manuals at 49-50 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p>

Claim 1	Identification												
1[c]. at least one disassembler defined according to the polymorphic metadata that disassembles inbound data documents into multiple records in preparation for insertion into metadata tables; and	<p>SAP Data Services includes at least one disassembler defined according to the polymorphic metadata that disassembles inbound data documents into multiple records in preparation for insertion into metadata tables. For example, <i>see</i>:</p> <div><p><b>2.7 Objects in Data Services</b></p><p>An object is anything that you define, edit, or use in SAP Data Services Designer.</p><p>Each Data Services object falls into one of the following classes:</p><ul style="list-style-type: none"><li>• Single use</li><li>• Reusable</li></ul><p>The object class determines how you create and retrieve the object.</p><div><p><b>i Note</b></p><p>For information about source-specific objects, consult the applicable supplement document for that source. For example, for information about SAP applications as a source, consult the <i>Supplement for SAP</i>.</p></div><p>The following table describes all objects in Data Services in alphabetical order, and includes the object class. For more information about each object, see the <i>Reference Guide</i>.</p><table><tr><th>Object</th><th>Object class</th><th>Description</th></tr><tr><td>COBOL copybook file format</td><td>Reusable</td><td>Defines the format for a COBOL copybook file source.</td></tr><tr><td>Conditional</td><td>Single-use</td><td>Specifies the steps to execute based on the result of a condition.</td></tr><tr><td>Data flow</td><td>Reusable</td><td>Specifies the requirements for extracting, transforming, and loading data from sources to targets.  A data flow can be a part of a batch job or a real-time job.</td></tr></table></div> <p>Source: SAP Data Service, Technical Manuals at 284-85 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p>	Object	Object class	Description	COBOL copybook file format	Reusable	Defines the format for a COBOL copybook file source.	Conditional	Single-use	Specifies the steps to execute based on the result of a condition.	Data flow	Reusable	Specifies the requirements for extracting, transforming, and loading data from sources to targets.  A data flow can be a part of a batch job or a real-time job.
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COBOL copybook file format	Reusable	Defines the format for a COBOL copybook file source.											
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	<div data-bbox="611 266 1703 440"> <p><b>2.18 Real-time Jobs</b></p> <p>During real-time jobs, SAP Data Services receives messages from ERP systems or Web applications and sends replies immediately with data from a data cache or a second application.</p> </div> <div data-bbox="611 440 1713 630"> <p><b>3.2.2.32 XML message</b></p> <p>An XML message object allows you to indicate a real-time source or target in a job.</p> </div> <div data-bbox="611 657 1713 1349"> <p><b>Description</b></p> <p>When used as a source, an XML message object translates incoming XML-formatted messages into an internal SAP Data Services data set. When used as a target, an XML message object translates the data produced by a job, including nested data, into an XML-formatted message and sends the message to the Access Server.</p> <p>When a real-time job contains an XML message source, it must also contain an XML message target.</p> <p>The data read into or written out of an XML message must have a single row at the top-level table. When writing out an empty nested table, the software includes a single row of the nested table, with null values in each column of the table.</p> <p>To produce the metadata that describes the data that an XML message handles, the software reads the format for the XML message. The metadata is stored in the repository as an XML Schema or DTD.</p> <p>XML message properties are the same as those for its DTD and XML schema formats.</p> </div> <p>Source: SAP Data Service, Technical Manuals at 1132, 1684-85 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>).</p>

Claim 1	Identification
<p><b>1[d].</b> at least one assembler defined according to the polymorphic metadata that assembles outbound data documents from at least one record selected from at least one metadata-selected table whereby data is transformed for supply, consumption or both.</p>	<p>SAP Data Services includes at least one assembler defined according to the polymorphic metadata that assembles outbound data documents from at least one record selected from at least one metadata-selected table whereby data is transformed for supply, consumption or both. For example, <i>see</i>:</p> <div data-bbox="611 412 1705 586"> <p><b>2.18 Real-time Jobs</b></p> <p>During real-time jobs, SAP Data Services receives messages from ERP systems or Web applications and sends replies immediately with data from a data cache or a second application.</p> </div> <div data-bbox="611 586 1585 760"> <p><b>3.2.2.32 XML message</b></p> <p>An XML message object allows you to indicate a real-time source or target in a job.</p> </div> <div data-bbox="611 776 1585 1386"> <p><b>Description</b></p> <p>When used as a source, an XML message object translates incoming XML-formatted messages into an internal SAP Data Services data set. When used as a target, an XML message object translates the data produced by a job, including nested data, into an XML-formatted message and sends the message to the Access Server.</p> <p>When a real-time job contains an XML message source, it must also contain an XML message target.</p> <p>The data read into or written out of an XML message must have a single row at the top-level table. When writing out an empty nested table, the software includes a single row of the nested table, with null values in each column of the table.</p> <p>To produce the metadata that describes the data that an XML message handles, the software reads the format for the XML message. The metadata is stored in the repository as an XML Schema or DTD.</p> <p>XML message properties are the same as those for its DTD and XML schema formats.</p> </div>



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	<p>Source: SAP Data Service, Technical Manuals at 1132, 1684-85 (available at <a href="https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf">https://help.sap.com/doc/01936779d9ec46dcaa8a5d7dc6e0c2b7/4.2.14/en-US/ds_42_tech_manuals_en.pdf</a>)</p> <div data-bbox="611 337 1759 1343" style="border: 1px solid black; padding: 10px;"> <h3 data-bbox="619 349 926 389">2.13 Data flows</h3> <p data-bbox="619 443 1560 470">Data flows are the objects that extract, transform, and load data in a batch or real-time job.</p> <p data-bbox="619 493 1736 586">Everything having to do with data, including reading sources, transforming data, and loading targets, occurs inside a data flow. The lines connecting objects in a data flow represent the flow of data through data transformation steps.</p> <div data-bbox="646 613 789 649">❖ Example</div> <p data-bbox="646 672 1749 732">To populate the fact table in your data warehouse with new data from two tables in your source transaction database, create a data flow that contains the following objects:</p> <ul data-bbox="657 753 1308 862" style="list-style-type: none"> <li>• Two source tables.</li> <li>• A Query transform that joins specified rows from the tables.</li> <li>• A target table where the new rows are placed.</li> </ul> <p data-bbox="646 883 1749 943">Connect the objects in the data flow to indicate the flow of data. The following diagram shows the resulting data flow:</p> <div data-bbox="646 971 1283 1336" style="border: 1px solid black; padding: 10px;">  <pre> graph LR     Source1[Source1] --&gt; Query[Query]     Source2[Source2] --&gt; Query     Query --&gt; Target[Target] </pre> <p>The diagram illustrates a data flow process. On the left, there are two source objects labeled 'Source1' and 'Source2', each represented by a blue icon with a green play button and a magnifying glass. Arrows from both sources point to a central 'Query' object, which is a blue box with a yellow and orange diamond icon. An arrow then points from the 'Query' object to a 'Target' object on the right, which is a blue icon with a green play button and a magnifying glass. The entire diagram is enclosed in a black rectangular border.</p> </div> </div>

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